

CLAIMS

1. A method for controlling the configuration of the movements of the liquid metal poured into a continuous casting mold for metal slabs or other similar flat products, especially made of steel, by means of a submerged nozzle provided with lateral outlet ports turned so as to face the short walls of the mold, it being possible for said configuration to be naturally in "single loop" or "double loop" mode, or else to be "unstable", characterized in that traveling magnetic fields are employed that act on the streams of liquid metal arriving in the mold (18) via the ports (2) of the submerged nozzle (3), said magnetic fields being produced by linear electromagnetic inductors (14, 14', 15, 15') placed so as to face at least one wall of the mold on either side of the nozzle so as to set up, or stabilize, a steady-state configuration in "double loop" mode.
2. The method as claimed in claim 1, characterized in that magnetic fields are employed that travel horizontally outward, in the direction going from the nozzle (3) toward each short mold wall (5), by means of inductors (14, 14', 15, 15') placed so as to face at least one long wall of the mold on either side of the nozzle.
3. The method as claimed in claim 1 or 2, characterized in that the magnetic fields are made to travel throughout the entire casting operation.
4. The method as claimed in claim 1 or 2, characterized in that said traveling magnetic fields are employed only if the configuration of the movements of the metal poured into the mold is not naturally in "double loop" mode.

5. The method as claimed in claims 2 and 4,
characterized in that, if the configuration of the
movements is already naturally in "double loop"
5 mode, the magnetic fields are made to travel
horizontally by means of said inductors (14, 14',
15, 15') placed so as to face at least one long
wall of the mold on either side of the nozzle
10 after the said inductors have been set so that the
fields produced by each of them all travel in the
same direction so as to impress on the liquid
metal in the mold an overall movement of rotation
about the casting axis.
- 15 6. An installation for implementing the method as
claimed in claim 2, comprising an electromagnetic
unit (10) formed by at least one pair of linear
traveling-magnetic-field inductors mounted so as
to face at least one long wall of the mold and
oriented so as to produce a horizontal traveling
magnetic field, and a controlled polyphase power
supply (11), characterized in that said power
supply is connected to each pair of linear
inductors (14, 14', 15, 15') of said
20 electromagnetic unit (10) in order to produce in
each of them a traveling magnetic field directed
solely outward, in a direction going from the
submerged nozzle (3) toward a short wall of the
mold (5).
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